

ABSTRACT OF THE DISCLOSURE

An electron source forming substrate wherein an insulating material film is disposed on the surface of the substrate at which surface an electron-emitting device is arranged. The insulating material film contains a plurality of metallic oxide particles having an average particle size within the range of 6 nm to 60 nm as expressed in a median value, and suppresses undesirable diffusion of Na from the substrate, thereby makes stable an electron-emitting characteristics, without an adverse effect due to the Na diffusion, even elapsing longer time.